**Covid-19 Impact on Twitter in**

**North Carolina – Data Observations**

# Are Covid-19 references on Twitter linked to virus progression both globally and in North Carolina?

*During the early stages of the pandemic, Twitter data globally did not see a steady increase in original tweets as expected. Instead, higher numbers of original tweets occurred on days when there were major world headlines. Clear examples occurred on January 31st when the US announced travel restrictions for visitors returning from China and when the first quarantines were initiated. Similar headline grabbing announcements occurred on February 9th, 2020 (China investing10bn to fight the virus) and on February 21st (WHO announced that Covid-19 was officially a pandemic). News cycles had significant impact on original tweets rather than sustained but increasing information such as what was experienced in the early part of the Covid-19 pandemic.*

*As the Covid-19 progressed in NC, the team saw Twitter activity increase in those counties where the virus was most impactful. This is seen by the deepening colors on the Twitter heatmaps representing more tweets in those impacted counties.*

# Does location impact the probability of Twitter use as the virus progressed?

*Yes, areas experiencing higher impact (i.e. Cases & Deaths) from Covid-19 Tweeted, Liked, and Retweeted more frequently. Mecklenburg county for example moved from light green and yellow at the start of the data set to red in May when their case and death rate spiked. This differed from Wake county where Twitter activity declined in May and Covid-19 cases and deaths were not as significant.*

# As the number of cases and deaths increased, did Twitter original Tweets increase?

*Early pandemic increases in original tweets were positively correlated to headlines. That being said, there did appear to be a slow growth in original Tweets as the virus progressed globally into late February.*

*TBD – North Carolina Data set*

# As the number of cases and deaths increased, did Twitter retweets and likes increase?

*Yes, as the virus progressed globally there was a corresponding growth of retweets and likes. Retweets and Tweets, however, remained more heavily correlated to those dates with major headlines.*

*In the North Carolina analysis, the link between virus progression and tweet activity was stronger. This is reflected from the same trend was identified in NC Metropolitan areas. A The data reflected that Mecklenburg County’s Covid-19 cases maintained a similar distribution to other North Carolina Metropolitan areas, however, they experienced a sharper increase in death rates. The increase in death rates aligned with increased Twitter activity. This behavior is aligned to the team’s hypothesis that Twitter activity increased as the pandemic progressed.*

# Is North Carolina a good representation of US COVID-19 trends and what thereby can be inferred about Twitter usage?

*North Carolina metropolitan area Twitter trends are likely to be consistent with those of other US metropolitan areas, however, as the team did not sample rural counties, an assessment cannot be made as to whether NC is a good representation of the country as a whole.*